





LIBRARY  
OF THE  
UNIVERSITY  
OF ILLINOIS

550.5

FI

v.10-11

OCT 7 1987

GEOLOGY

UNIVERSITY OF  
ILLINOIS LIBRARY  
AT URBANA-CHAMPAIGN  
GEOLOGY

Return this book on or before the  
**Latest Date** stamped below.

**GEOLOGY LIBRARY**

University of Illinois Library

DEC 30 1964	JUN 11	1984
DEC 8 1966	MAR 8 1969	1989
DEC 29 1966	MAR 17 1969	1989
FEB 3 1967		MAY 17 2004
JUN 16 1967		
JUL 17 1968		
MAY 22 1972		
NOV 24 1980		
DEC 8 1980		
NOV 25 1982		

L161—H41







# FIELDIANA: GEOLOGY

*A continuation of the*  
GEOLOGICAL SERIES  
*of*  
FIELD MUSEUM OF NATURAL HISTORY

---

VOLUME 10



FIELD MUSEUM OF NATURAL HISTORY  
CHICAGO, U.S.A.



## TABLE OF CONTENTS

	<small>PAGE</small>
1. A New Turtle from the Paleocene of Colorado. By Karl P. Schmidt..	1
2. Fossil Specimens of <i>Macrochelys</i> from the Tertiary of the Plains. By Rainer Zangerl.....	5
3. A New Anosteirine Turtle from Manchuria. By Rainer Zangerl.....	13
4. A New Pycnodont Fish from the Cretaceous of Arkansas. By Louis Hussakof.....	23
5. Redescription of <i>Taphrosphys olssoni</i> . A Fossil Turtle from Peru. By Rainer Zangerl.....	29
6. A New Genus of Taeniodonts from the Late Paleocene. By Bryan Patterson.....	41
7. A New Silurian Trilobite <i>Dalmanites oklahomae</i> . By Eugene S. Richardson, Jr.....	43
8. Some Lower Huronian Stromatolites of Northern Michigan. By Eugene S. Richardson, Jr.....	47
9. The Temporal Region of the Permian Reptile <i>Diadectes</i> . By Everett Claire Olson.....	63
10. A Middle Devonian Octactinellid Sponge from New York. By Eugene S. Richardson, Jr.....	79
11. Fauna of Upper Vale and Choza: 1-5. By Everett Claire Olson.....	89
12. A Mastodont Tooth from Szechwan, China. By Dirk A. Hooijer and Edwin H. Colbert.....	129
13. A Classification of the Conularida. By G. Winston Sinclair.....	135
14. Fauna of the Upper Vale and Choza: 6, <i>Diplocaulus</i> . By Everett Claire Olson.....	147
15. A New and Primitive Early Oligocene Horse from Trans-Pecos Texas. By Paul O. McGrew.....	167
16. Fresh-water Limestone from the Torola Valley, Northeastern El Salvador. By Sharat Kumar Roy and Robert Kriss Wyant.....	173
17. Fauna of the Vale and Choza: 7. Pelycosauria: Family Caseidae. By Everett Claire Olson.....	193
18. Fauna of the Vale and Choza: 8. Pelycosauria: <i>Dimetrodon</i> . By Everett Claire Olson.....	205
19. Fauna of the Vale and Choza: 9. Captorhinomorpha. By Everett Claire Olson.....	211
20. Note on An Eocene Crab <i>Harpactocarcinus mississippiensis</i> Rathbun. By Eugene S. Richardson, Jr.....	219

21. Fauna of the Vale and Choza: 10. <i>Trimerorhachis</i> : Including a Revision of Pre-Vale Species. By Everett Claire Olson.....	225
22. The Carboniferous Gastropod Genus <i>Glabrocingulum</i> Thomas. By Robert E. Sloan.....	275
23. The Paragould Meteorite. By Sharat Kumar Roy and Robert Kriss Wyant.....	283
24. A New Species of the Fossilial Mammal <i>Arctoryctes</i> from the Oligocene of Colorado. By Charles A. Reed.....	305
25. Fauna of the Vale and Choza: 11. <i>Lysorophus</i> : Vale and Choza; <i>Diplocaulus</i> , <i>Cacops</i> and <i>Eryopodae</i> : Choza. By Everett Claire Olson.....	313
26. Fauna of the Vale and Choza: 12. A New Trematopsid Amphibian from the Vale Formation. By Everett Claire Olson.....	323
27. Fauna of the Vale and Choza: 13. <i>Diadectes</i> , <i>Xenacanthus</i> , and Specimens of Uncertain Affinities. By Everett Claire Olson.....	329
28. The Present Status of the Volcanoes of Central America. By Sharat Kumar Roy.....	335
29. The Nature of Shield Abnormalities in the Turtle Shell. By Rainer Zangerl and Ralph G. Johnson.....	341
30. A Restudy of the 1917 Eruption of Volcán Boquerón, El Salvador, Central America. By Sharat Kumar Roy.....	363
31. The Problems of the Origin and Structure of Chondrules in Stony Meteorites. By Sharat Kumar Roy.....	383
32. Fauna of the Vale and Choza: 14. Summary, Review, and Integration of the Geology and the Faunas. By Everett Claire Olson.....	397
33. New Salamanders of the Family Sirenidae from the Cretaceous of North America. By Coleman J. Goin and Walter Auffenberg.....	449
34. A Review of the Family Captorhinidae. By Richard J. Seltin.....	461
35. Two New Rodent Genera from the Oligocene White River Formation (Family Heteromyidae). By William G. Reeder.....	511
36. A Lance Didelphid Molar. With Comments on the Problems of the Lance Therians. By William D. Turnbull.....	525
37. The Walters Meteorite. By Sharat Kumar Roy, Jewell J. Glass and Edward P. Henderson.....	539

# FIELDIANA · GEOLOGY

Published by  
CHICAGO NATURAL HISTORY MUSEUM

---

Volume 10

SEPTEMBER 19, 1945

No. 1

---

## A NEW TURTLE FROM THE PALEOCENE OF COLORADO

KARL P. SCHMIDT

CHIEF CURATOR, DEPARTMENT OF ZOOLOGY

A number of fossil shells of turtles were collected from the Paleocene beds of western Colorado by Messrs. Bryan Patterson and James H. Quinn (with various friends and associates) in 1932 and subsequent years. One of these, collected in 1941, is immediately recognizable as a trionychid, closely allied to *Aspideretes puerensis* of the early Paleocene Puerco beds of New Mexico. I am again indebted to Messrs. Patterson and Quinn for aid in the study of the specimen in question. Though a nearly complete carapace, it was in such friable condition when found that its preservation offered unusual difficulties, necessitating permanent plaster backing. Mr. Quinn's skillful preparation nevertheless very well exhibits the carapacial characters.

The new form agrees with *Aspideretes puerensis* in the complete separation of the nuchal from the first costal by an excavation that extends to the preneural. This is plainly a secondary character; as these two species represent a distinct phyletic branch, off the main line of evolution of the Trionychidae, it is useful to distinguish them generically from *Aspideretes*.

Class **Reptilia**

Order **Testudinata**

Family **Trionychidae**

**Paleotrionyx** gen. nov.

*Diagnosis*.—Distinguished from *Aspideretes* by the complete separation of the nuchal from the first costal bones (except at the end of the rib), the excavation extending to the preneural. Otherwise with the characters of *Aspideretes*.

*Type*.—*Paleotrionyx quinni* sp. nov.

**Paleotrionyx quinni** sp. nov.

*Holotype*.—Chicago Natural History Museum No. P26441, a carapace with one side essentially complete. Found by Alfred A. Look, Jr.

*Horizon and type locality*.—Plateau Valley beds, late Paleocene; 2½ miles west of DeBeque, Mesa County, Colorado (one-half mile west of the Finley Ranch House).

*Diagnosis*.—A large trionychid with a flat rugose portion of the carapace ending laterally with an abrupt margin bordered by a smooth strip, set below the level of the rugose disk, from which the ribs extend. Nuchal broadly in contact with the rib-end of the first costal, otherwise separated from the first costal by an excavation that reaches the large preneural. Distinguished from *Paleotrionyx puerensis* by its much more elongate neurals.

*Description of type*.—Carapace very flat from side to side and apparently also from front to rear, about 700 mm. in length on the mid-line, and 410 at the widest point of the disk, the rib-ends projecting at least 160 mm. on each side in addition. Nuchal large and transverse, widely separated from the body of the first costal but in contact with the ends of its rib-extensions; only the posterior median portion involved in the rugosity of the dorsal disk; the lateral wings each with a ridge on the dorsal surface. Disk very rugose, with ridges tending to be parallel to the sides; rugosity ending abruptly at an edge raised above the level of a smooth margin, 30 mm. wide, that is continuous with the projecting rib-ends. Preneural much broader than long, with free lateral edges. Second and third neural more elongate than in *puerensis*. Free end of rib on third costal very long. Eighth costal very small (incomplete). Neurals narrowing to the seventh, which is wedge-shaped, the second longest.

## MEASUREMENTS

	Length mm.	Width mm.
Nuchal . . . . .	92	370
Preneural . . . . .	68	86
Neurals		
First . . . . .	66	48
Second . . . . .	86	48
Third . . . . .	81	41
Fourth . . . . .	76	43
Fifth . . . . .	64	40
Sixth . . . . .	59	40
Seventh . . . . .	60	21

*Discussion*.—The two species of *Paleotrionyx* may be distinguished as follows:



FIG. 1. Dorsal aspect of carapace of *Paleotrionyx quinni* sp. nov.

1. No step-like depression of the smooth rim of the carapacial disk below the level of the rugose surface; neurals normal, hexagonal; a rib-like thickening of the nuchal on its lower surface. .... *puercensis*.
2. Smooth rim of the carapacial disk set abruptly below the level of the rugose surface; neurals elongate; rib-like thickening of the nuchal on its upper surface. .... *quinni*.

The Paleocene species of *Aspideretes* (Gilmore, 1942) are *sagatus*, *reesidei*, *vegetus*, *quadratus*, and *perplexus* of the Puerco, *singularis* of the Torrejon beds of New Mexico, *superstes* of the Paskapoo of Alberta, *subquadratus* of the Ravenscrag of Saskatchewan, and *nassau* from the Fort Union beds of Montana. In all of these in which the nuchal is known, it is in contact with the first costal throughout its length. *Aspideretes nassau* is known only from the posterior part of the carapace, and thus can not be allocated with certainty to either *Paleotrionyx* or *Aspideretes*. It may be retained as *Aspideretes?* *nassau* as in Hay's original description. None of the numerous species of *Aspideretes* from the Cretaceous exhibit the generic character of *Paleotrionyx*.

#### REFERENCES

GILMORE, C. W.  
1942. Paleocene faunas of the Polecat Bench formation, Park County, Wyoming.  
Part II: Lizards. Proc. Amer. Phil. Soc., 85, pp. 159-167, figs. 1-12.

HAY, O. P.  
1908. The fossil turtles of North America. Carnegie Inst. Wash. Pub., 75,  
IV+568 pp., 704 figs., 113 pls.







UNIVERSITY OF ILLINOIS-URBANA

550.5FI C001  
FIELDIANA, GEOLOGY CHGO  
10-11 1945-58



3 0112 026616000